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IO-Power USSP-12V3547-OA Series

Outdoor Streetlamp Large Capacity Model

Online Type Uninterruptible Operation Power System

IOP-USSP-12V3547-OA Series

User Manual

IOP-USSP-1235-10B
IOP-USSP-1240-10B
IOP-USSP-1247-10B

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Trademark and Copyright Notice

IOP-USSP-12V3547-OA series is Outdoor Streetlamp Large Capacity Model online power voltage regulator power systems; IO-Power technology limited a registered trademark.

All parts of the product, including software and accessories, their copyrights are owned by IO-Power technology limited, without IO-Power technology license, transcript may not be any imitation, copying or translation.

Product specifications and information referred to in this manual are for reference only, specification changes, without prior notice, please consult with agent or dealer before purchase latest product specification data.

About this manual

This manual discusses IO-Power technology Outdoor Streetlamp Large Capacity Model online power voltage regulator power systems, through the operation of the content of this article to address the problems of outdoor power-seizing.

This manual uses the following criteria to communicate instructions and information:

	C-LiFePO4 Lithium Batteries
	Readers ‘attention’. These attentions to include the special conditions referred to in this manual or use the recommendation and note references.
	Reader ‘beware’. In this case, readers can result in equipment damage or risks.
	Hazard. Means that there is a potential risk of this can result in physical damage. Before using any equipment, please pay attention to the risks associated with the circuit, as well as familiar with standard practices required to prevent accidents from happening.

Bold: It means an important function and set of steps require your attention.

Product Warranty

Housing Warranty

IOP-USSP-12V3547-OA series is Outdoor Streetlamp Large Capacity Model online power voltage regulator and power systems, protection grade iron material metal casing, complemented by professional antirust paint, suitable for indoor and outdoor harsh environments.

Users in accordance with the operations manual to operation and use of this product in non-human is a misuse case will have 1 year warranty guarantee.

Fully electronic micro processing control boards warranty

IOP-USSP-12V3547-OA series using chip microprocessor design, micro-controller design for online charging and discharging Control Board, Control Board at -20°C~70°C under normal operation.

Charge / Discharge current of current control board were 7 A, -20°C~70°C temperature protection, when product temperatures is above 70°C, all micro-controller will automatically stop charging and discharging operations, it must be cool or under the limited high temperature, the system will be activated again.

In accordance with the user manual to operate and use this product in non-human misuse case, buyer will have 1 year warranty guarantee.

AC to DC transformer warranty

IOP-USSP-12V3547-OA series uses the adapter that is input 100~240V AC and output DC 18V. Input AC voltage is ranged 100~240V, current 1.2A, and frequency 50/60 Hz; output DC voltage for 18V/1.5A~3A Max. (AC to DC adapter do not have waterproof protection, please place it in the power distribution box and do waterproof and dustproof protection)

In accordance with the user manual to operate and use this product in non-human misuse case, buyer will have 1 year warranty guarantee for AC to DC adapter.

C-LiFePO4 Lithium Batteries warranty

IOP-USSP-12V3547-OA series adopts the latest technologies of high and low temperature resistance of C-LiFePO4 Lithium B series adopts the latest technologies of high and low temperature resistance of C-LiFePO4 Lithium Batteries, supported by:

Automatic detection of abnormal voltage or false battery status and execution of battery charging protection *

Battery low voltage protection with zero power consumption *

Balancing charge / discharge protection *

… Patent design and unique microprocessor system for charging and discharging control management, C-LiFePO4 Lithium Batteries characteristics is fully played.

In accordance with the user manual to operate and use this product in non-human misuse case, buyer will have 1 year warranty guarantee for 1 year warranty or 500 times of charge and discharge cycle.

(Extension of the warranty period and the number of cycle life 500 times, product warranty guarantee may be extended: 1year/500 times will cost another 10%)

Attention of the Product storage

High and low temperature storage

IOP-USSP-12V3547-OA series adopts the latest technologies of high and low temperature resistance of C-LiFePO4 Lithium Batteries and ability to import static zero-power. But after the charge and discharge test before shipping, the system is on low-consumption detecting status Storage temperature must be between 20°C ~35°C to remain the normal operation of stockpile security and subsequent use of products.

Low-voltage storage

IOP-USSP-12V3547-OA series uses static zero power function. But after the charge and discharge test before shipping, system stays in low voltage, low power reconnaissance operation status. When C-LiFePO4 Lithium Batteries discharge to 11V+-3%, the built-in charging and discharging micro-processing controller will automatically execute

low-voltage-discharge-termination protection, so user should regularly detect for low voltage status, to keep stockpile safe and subsequent use of product.

The lowest discharging voltage of this product is 9V+-3%, and the highest voltage discharge protection for 14.4V+-3%.

Regular maintenance of low voltage storage

IOP-USSP-12V3547-OA series adopts the storage under low-voltage and low-power consumption status, we strongly recommend that after obtaining the products, charge the battery for 8 hours for the first time, and then charge the battery once every 3 months.

(Fully-charged C-LiFePO4 Lithium Batteries stored @ 25°C for 1 year, its power capacity will remain 90%. After charging, its power capacity will lift to 95~97 %.)

Activate the system

IOP-USSP-12V3547-OA series adopts low voltage detection operation for low power consumption storage, when the battery voltage is below 11V+-3%, microprocessor will execute the termination. After the outer power is put in, it will activate the system in10 seconds. And then the PCBA will start to charge the C-LiFePO4 Lithium Batteries, and supply for the supported equipment at the same time.

After the first time to activate the system, before Outdoor Streetlamp Large Capacity Model executes the low-voltage-discharge-termination, DC UPS power system can detect the discharging status. Once the supported equipment is plugged in, the system will automatically supply power for the equipment.

Special attention of the Product used

IOP-USSP-12V3547-OA series adopts the latest technologies of high and low temperature resistance for C-LiFePO4 Lithium Batteries. The characteristics of C-LiFePO4 Lithium Batteries are very different from the lead-acid batteries and other types of batteries. C-LiFePO4 Lithium Batteries made by different manufacturers design different characteristics in product, including the operating voltage and operation current. This product uses C-LiFePO4 Lithium Batteries. Users shall pay more attention on list below:

1. Please use the product in accordance with the product specification data. Please do not remove or change this equipment without authorization of any of the main parts, so as to avoid the safe use of the extension of the problem.
2. Do not proceed heating over 80°C or put it close to fire or keep it less than -40°C to directly cooling down. It might cause damages for electronic components and the batteries.
3. When the product housing is over 70°C, do not carry out charging and discharging operation to avoid danger.
4. Do not place this product in high humidity and put it into water or close to the highly volatile chemical solvents to avoid danger.
5. Installation and assembly connectors in accordance with product instructions, not adjacent to the wrong wire connection to avoid the danger.
6. Do not use hammer or other items to strike this product, trample on the battery, cause strong impact, or throw, drop this product to avoid danger.
7. Before using this product, any action to charge and discharge the battery of this product, please be sure to read the manual in detail and with care.
8. When the C-LiFePO4 Lithium Batteries is discharging and being discharged, please keep it away from other conductive objects.
9. When recycling the batteries, please be sure that the battery (+) (-), short circuit is isolated to avoid danger.
10. The C-LiFePO4 Lithium Batteries has a life cycle, when the battery life-cycle ends, please contact your seller to replace same battery.

11. Be aware of the abnormal heat, flame, shape, smell, color, and other abnormal conditions, please immediately discontinue your use of the product and contact the seller as soon as possible or contact IO-Power Technology company.

12. When erecting IOP-USSP-12V3547-OA series, if the distribution box or patch box space license case, recommend this product fixed inside the box, it will help to reduce this product at the risk of excessive high temperature operating temperature.

13. When erecting IOP-USSP-12V3547-OA series, if possible, we recommends that this product fixed to the Lee side, or not to be in the rain, it will help to reduce this product is too high or low humidity and rain water environments such as operational risks.

14. When erecting IOP-USSP-12V3547-OA series, if possible, we recommend this product fixed on the back of sunshine, or not to be shined, it will help to reduce the heat caused by excessive heat and sunshine to protect the product body and wiring from speeding-up aging from the environmental risks.

15. When system erecting IOP-USSP-12V3547-OA series, even this products is rated IP66~IP67 of waterproof and dustproof grade, but for a sound safety for indoor and outdoor use, we suggest to proceed professional waterproof protection. Using general PVC tape for waterproof with 2 levels can reach the effect of waterproof and dustproof.

Product Specification

IOP-USSP-12V3547-OA Series Specification (* Patent Pending)

Model	IOP-USSP-1235-10B	IOP-USSP-1240-10B	IOP-USSP-1247-10B
Outdoor Model M12 Connector Aluminium Radiating Airtight Housing IP 67			
Power Capacity	445 WH (34.8Ah @ 12.8V)	515 WH (40.2Ah @ 12.8V)	594 WH (46.4Ah @ 12.8V)
AC to DC Adapter Input AC Voltage Output DC Voltage	100-240V/3A 50/60Hz 18V/6A Max		
DC to DC for Device	DC 11.5V~14.4V +-3% 6A Max		
DC to DC for Battery	14.4V +-3% 3~4.8A Max		
Transform Efficiency	90%~		
Protection	On Line Working System Non Stop Standby Consume Protection* Standby Consume Protection* Balance Voltage Function* Overload Protection Overcharge Protection Over discharge Protection Over current Protection Short circuit Protection Over current Protection Short circuit Protection		
Support Battery Type	C-LiFePO4 Lithium Batteries		
Battery Capacity	34.8Ah @ 12.8V (445 WH)	40.2Ah @ 12.8V (515 WH)	46.4Ah @ 12.8V (594 WH)
Battery Charge Mode	CCP/CVP MCU Control		
Battery Charge Voltage	14.4V +- 3%		
Battery Charge Float Voltage	13.6V +- 3%		
Battery Cut-off Discharge Voltage	11.5V +- 3%		
Battery recovery discharge	12.4V +- 3%		

voltage			
Standard Charge Current	4.8A		
Standard Discharge Current	3A		
Max. Discharge Current	6A		
Charging Time @95% Capacity	Non discharge 7hrs On line discharging 9hrs	Non discharge 8hrs On line discharging 10hrs	Non discharge 9hrs On line discharging 12hrs
Battery Cycle Life (80% Capacity) 0.2C Charging 0.5C Discharge	@ 25°C 2000 Times @ 45°C 1600 Times @ 50°C 1200 Times @ 60°C 550 Times @ 60°C 720 Times 70% Capacity		
Industrial Housing & Connector	Aluminium Radiating Airtight Housing IP67 M12 Connector		
Connector Type	1.Input: 100~240V / 50-60Hz AC Plug to 18V M12 Female 2.Output: 12V M12 Female to DC Jack Female		
Operating Temperature (Discharge)	-20°C ~ 60°C 20~40°C Battery Capacity:100% -10°C Battery Capacity : 60% -20°C Battery Capacity : 48%		
Charging Temperature	-30°C ~ 60°C		
Storage Temperature	-20°C ~ 40°C		
Rel. Humidity	10~95%RH		
Storage Time	6 months (Please every three months charge one time) **(Before the Use, please First Charge)**		
Dimension	209(L)x200(W)x210mm(H)		
Weight	4.2Kg (Box 5.3Kg) (2Pcs/Carton)	4.9Kg (Box 6.0Kg) (2Pcs/Carton)	6.5Kg (Box 7.2Kg) (2Pcs/Carton)
LED Indicator	1.Input AC power LED-red full light (Battery capacity more than 95%) 2.Input AC power LED-red flash light (Battery is charging) 3.Battery is charging, Insert the 12V device load, LED-green flash light 4.Battery non charging, Insert the 12V device load, LED-green full light		
Housing	IP67		
Approvals	. CE, FCC		
Installation	1.Street lamp pole mount 2.Upright pole mount 3.Wall mount installation		
Warranty	12 months		

Carton Size	490*400*155mm

Note 1: battery capacity +-5%

Note 2: Product specifications change, without notice, consultation with agent or dealer before buying the latest specifications

Product Specification Selection Evaluation

Firstly to confirm the power consumption of the devices

Power consumption evaluation Description:

Usually, the current claimed on the device (EX: cameras) adapter is not the “actual power consumption” for normal working. We suggest asking the technical support from the Original-Design company for the actual power consumption for a precise evaluation.

The current claimed on the device (EX: cameras) adapter is usually for the transient current when starting the device. Therefore, it is usually much higher than its normal working power consumption. IOP-USSP-12V3547-OA series can support 12V/7A above of the starting large current discharging, so please calculate and evaluate with the normal working power consumption.

Load device power consumption Description:

1. IOP-USSP-12V3547-OA series product, the power consumption of the main control board: 0.5~1W/H (estimate as in 1W/H)
2. General surveillance cameras: 2.5~5W/H (estimate as in 3.6W/H)
3. Professional surveillance cameras for road surveillance, 3.5~6W/H (estimate as in 4.5W/H)
4. Infrared surveillance cameras, IR on: 4~8W/H (estimate as in 6W/H)
5. Professional infrared shield: 4~10W/H (estimate as in 6W/H)
6. Professional long-distanced IR projector: 8~12W/H (estimate as in 10W/H)
7. Video Server (analog to digital processor): 6~10W/H (estimate as in 8W/H)
8. Speed Dome Cameras: 8~12W/H (estimate as in 10W/H), with IR on, please add 6W/H (estimate as in 16W/H)
9. DVR with built-in 1 unit of 2TB Hard Disk drive: 8~14W/H (estimate as in 10W/H); plus 5W/H for 1 extra unit of hard drive
10. NVR with built-in 1 unit of 2TB Hard Disk drive: 8~14W/H (estimate as in 10W/H); plus 5W/H for 1 extra unit of hard drive

11. The network switches / hubs: 2~4W/H (estimate as in 3W/H)

12. Outdoor wireless equipment, normal RF output power:5~10W/H power consumption (estimate as in 8W/H); increased RF output power and MIMO-power consumption: 8~15W/H (estimate as in 12W/H); 1W high RF output power: 15~25W/H (estimate as in 22W/H)

Note1: Some devices have a fan for heat sink; please add the extra power consumption for the fan operation.

Note 2: Some devices have heater, please add the extra power for the heater operation.

Estimated DC UPS battery capacity calculation

Indoor/Outdoor DC UPS voltage regulator system uses: suggest designing for 6 hours

Outdoor Streetlamp Model power voltage regulator system uses: suggest designing for 14 hours

C-LiFePO4 Lithium Batteries Capacity V.S. C Value of charging and discharging

(C Value definition: hours of battery capacity and discharge current rate, such as: 1Ah battery capacity, amps to 1 A, =1C discharges 1 hour)

Suggest for charging current should be less than 0.5C, the discharging current should be less than 0.2C, to extend battery service life and power stability.

EX: With 4 units of infrared Speed Dome cameras(16W/H)

Total consumption: 16WH*4*6Hr*110% =422.4W => 422.4W/12.8V =33Ah

Recommended model: IOP-USSP-1235-10B -- 445 WH (34.8Ah @ 12.8V)

Discharging current and discharging C value: (16W*4)/12.8V =5A => 5A/34.8Ah =0.14C < 0.2C

Charging current and charging C value: (422.4W/8hr full charge) /12.8V=4.1A

=>4.1A/34.8Ah=0.11C **< 0.5C**; 4.1A < Power transformer 6A*80% = 4.8A

EX: With 1 set of general surveillance camera(3.6W/H) and professional infrared shield (6W/H)

Total consumption: 14Hr*9.6WH*4*110% =591W => 591W/12.8V =46.1Ah

Recommended model: IOP-USSP-1247-10B -- 594 WH (46.4Ah @ 12.8V)

Discharge current and discharge C value: (9.6W*4)/12.8V =3A => 3A/46.4Ah =0.06C < 0.2C

Charging current and charging C value: (591W/12hr full charge)/12.8V =3.8A => 3.8A/46.4Ah

=0.08C < 0.5C; 3.8A < Power transformer 6A*80% =4.8A

Note 1: for C-LiFePO4 Lithium Batteries in operation period, need to supply enough electricity, in under 3 years use requirement, power capacity may be dropped to 90~95%, for the sake of system normal operation within 3 years, plus the battery age compensation coefficient of 10%.
Note 2: the C-LiFePO4 Lithium Batteries voltage is 12.8V, unlike in lead-acid battery 12V, so C-LiFePO4 Lithium Batteries 591W/12.8V =46.1Ah.

Consideration for environmental characteristics (for C-LiFePO4 Lithium Batteries)

Battery service life and service efficiency is influenced obviously by the factors below. Please take the factors in consideration:

1. Operating temperature: Lowest temperature shall be higher than -20°C, and highest temperature shall be lower than 60°C.
2. Discharge depth: Usually, the definition of full-charged battery state is at 95% capacity, @13.3V. When its voltage is @ 11V, the power capacity is about 2.13% left. Long-Term discharging deeply will speed up aging the batteries. Therefore, we suggest discharging 70%, and keeping 30% left, @ about 13V. It will obviously extend the battery service life.
3. The charging and discharging current: The recommended charging current should be less than 0.5C. And the recommended discharging current should be less than 0.2C. It will fully show the battery charging/discharging characteristics and performance. It can also extend the battery service life and slow down the battery aging.
4. Regularly re-charge the power: The self-discharging rate of C -LiFePO4 Lithium Batteries is much less than other batteries. Remaining in high voltage can extend battery service life and slow down battery aging.

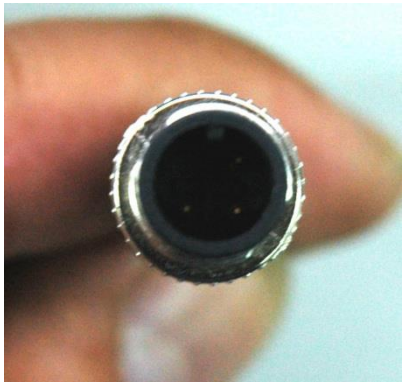
Product Installation Instruction

Input power M12 Female Connector (Adapter)

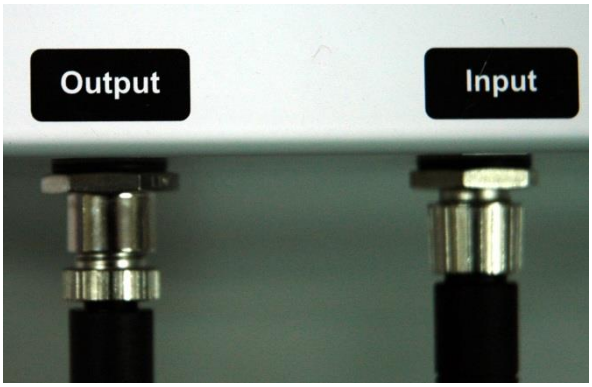
DC M12 Male to DC M12 Female for input

Take aim at M12 Male and plug in M12 Female and spin to tighten the connectors (please do an extra waterproof protection)

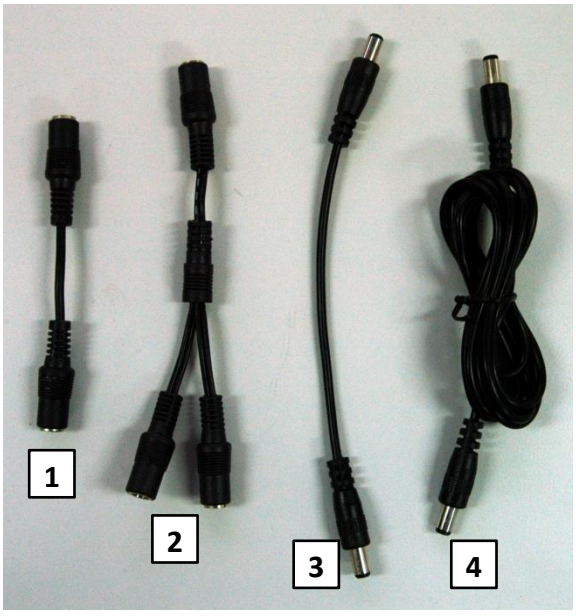
DC M12 Female to DC M12 Male for output



Take aim at M12 Female and plug in M12 Male and spin to tighten the connectors (please do an extra waterproof protection)



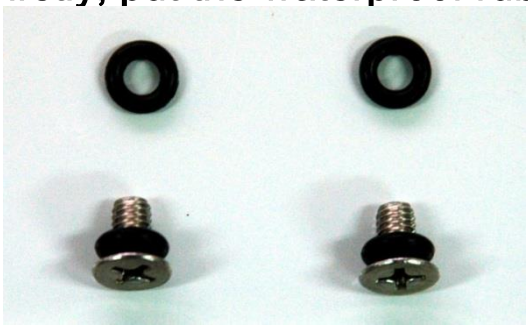
DC Extend Connector / DC Extend Cable



1. 1 DC Female to 1 DC Female 10.5cm (Female to Female, extended connector)
2. 1 DC Female to 2 DC Female 15cm (Female to Female, 1 to 2 extended distribution connector)
3. 1 DC Male to 1 DC Male 18.8cm (Male to Male, extended short cable)
4. 1 DC Male to 1 DC Male 150cm (Male to Male, extended long cable)

Mounting Instruction

Firstly, put the waterproof rubber gaskets on the screws



Then set the screw, through another set of waterproof rubber gaskets, on the stainless steel bracket

Finally, screw the bracket tight into the screw holes in the bottom side of the housing

Pole fixation

Stainless steel cable belt are recommended, through the stainless steel fixing brackets on either side of the hole, then beam tightly fixed to poles or garden lamp posts or street light lay … and so on.

Wall fixation

Recommended wall drilling two holes before mounting holes, into the plastic card, then the self-tapping screws of stainless steel locking, last through the stainless steel fixing brackets on either side of the hole, pressing down card hole in fixed product.

Product Use Instruction

External power input description

IOP-USSP-12V3547-OA series uses adapter to convert 100~240V AC to DC 18V for the built-in charging and discharging micro-controller to charge and discharge the battery. At the same time, it provides DC 11V~DC 14.4V for load devices, such as surveillance cameras, DVR/NVR host, infrared projector …etc.

First time to activate

After the outer power is put in, it will activate the system in10 seconds. And then the PCBA will start to charge the C-LiFePO4 Lithium Batteries, and supply for the supported equipment at the same time.

After the first time to activate the system, unless the DC UPS System executes the low-voltage-discharge-termination, it will keep working.

When the microprocessor detects the battery low voltage at 11V+-3%, it will automatically execute the termination to avoid battery damage of low voltage.

DC power output description

IOP-USSP-12V3547-OA series uses built-in charging and discharging micro-controller with the online-power circuit design, online in real-time to discharge by C-LiFePO4 Lithium Batteries, providing DC power 11V~DC 14.4V to load devices, such as surveillance cameras, DVR/NVR host, infrared projector …etc.

When the battery discharges @ 11V+-3%, the built-in micro-controller will automatically stop discharging and executes low-voltage-discharge-termination, the final low-voltage-discharge-termination is @ 9V+-3%, and the high-voltage-discharge-termination is @ 14.4V+-3%.

Recovery after low-voltage-discharge-termination instruction

IOP-USSP-12V3547-OA series uses built-in charging and discharging micro-controller. When battery discharging voltage is down to 11V+-3%, it will execute low-voltage-discharge-termination. It will not discharge for the load devices until the outer power source is back in service. The micro-controller will discharge again when the battery voltage raise to 12.4V+-3% voltage. (Usually, it needs 3-10 minutes, depending on the charging current)

C-LiFePO4 Lithium Batteries Charging

IOP-USSP-12V3547-OA series adopts the latest technologies of high and low temperature resistance of C-LiFePO4 Lithium Batteries. It is very different from the other types of battery, like lead-acid batteries, deep cycle lead-acid batteries, and lithium ion battery characteristics. Besides, the different C-LiFePO4 Lithium Batteries products characteristics made by different manufacturers are also different both in voltage and current.

IOP-USSP-12V3547-OA series charging mode and charging voltage is as below:

Battery Charge Mode	CCP/CVP MCU Control
Battery Charge Voltage	14.4V +- 3%
Battery Charge Float Voltage	13.6V +- 3%
Battery Cut-off Discharge Voltage	11.5V +- 3%
Battery Final Cut-off Discharge Voltage	9V +- 3%

IOP-USSP-12V3547-OA series uses C-LiFePO4 Lithium Batteries, different voltage values the remaining power capacity is as below(no load voltage): +-5%

Voltage(V)	Capacity (%)	Voltage(V)	Capacity (%)	Voltage(V)	Capacity (%)
14.10	100.00%	13.16	70%	12.60	13.72%
14.00	99.95%	13.13	65%	12.40	8.88%
13.80	99.85%	13.10	60%	12.20	7.14%
13.60	99.55%	13.08	55%	12.00	6.15%
13.40	98.80%	13.05	50%	11.80	5.38%
13.32	95%	13.03	45%	11.60	4.72%
13.28	90%	13.00	39.18%	11.40	4.14%
13.24	85%	12.98	35%	11.20	3.63%
13.20	78.55%	12.94	30%	11.00	3.15%
13.19	75%	12.80	21.40%	7.20	0.00%

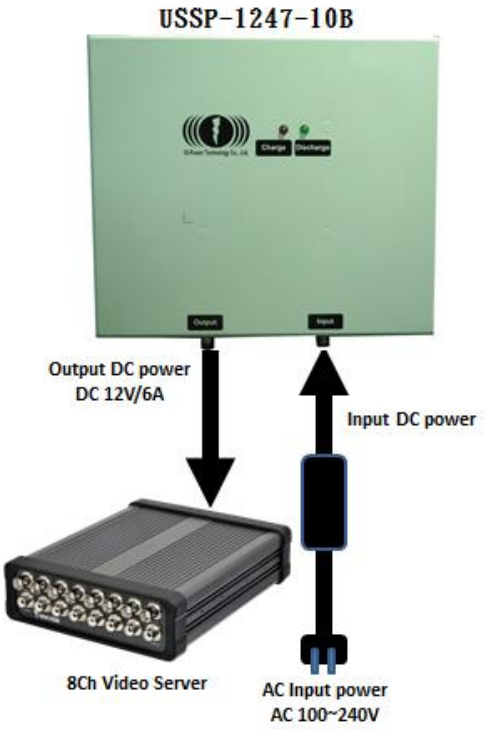
LED Display Instruction

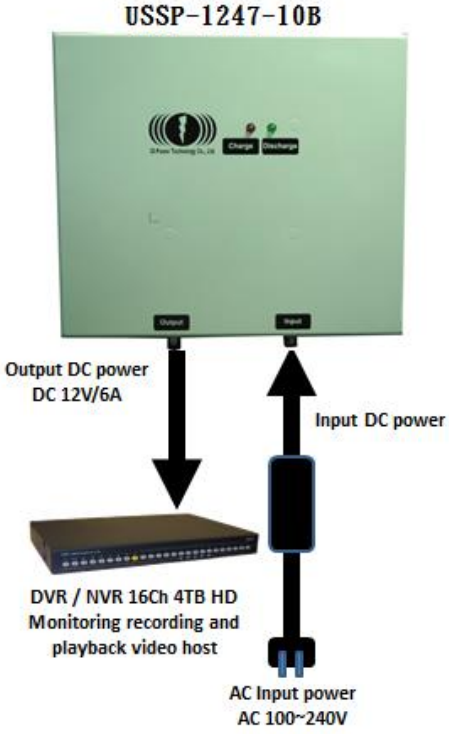
1. AC input (AC adapter to DC Power), red light (charge) constant display (battery full status)
2. Plug in the AC adapter, flashing red light (charge) display (battery charging status)
3. Battery in charging, plug in 12V load device, the green light (discharge) flashing display or constant light show
4. Battery not in charging, plug in12V device load insert, the green light (discharge) constant light display

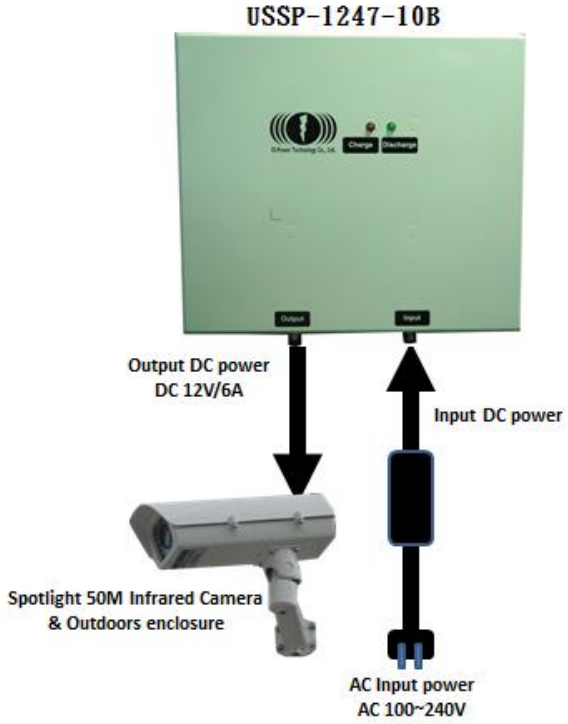
LED display considerations

1. When inputting abnormal DC voltage and LED red light flashing fast, please immediately remove the power supply to avoid danger.
2. When outputting DC power to the load device and LED green light flashing fast, please immediately remove the load device to avoid danger.
3. When other abnormal situation occurs, resulting in high temperature, please immediately remove the power supply and the load devices in order to avoid danger.
4. IOP-USSP-12V1224-OA series uses built-in micro-controller to detect the battery charging and discharging voltage every 3 minutes, and executes charging and discharging management; even if battery is fully charged, micro-controller will still float-charge the battery in order to remain the best status and performance of C-LiFePO4 Lithium Batteries.
5. If the LED green light is flashing slowly without connecting to any load device, it is that micro-controller detects the output noise. When inputting the power, the flashing will disappear and it does not affect the charging and discharging functioning.
6. When you plug in a load device, but the LED green light is not on, it is that the lowest discharging current that micro-controller may detect is 300mA+-10% (load device power consumption less than 3.5 W). If the power consumption of the load device is less than 300mA, the LED green light may not flash or constantly display, but it does not affect the charging and discharging functioning.

Product application







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IO-Power Indoor/Outdoor 12VDC Online Type Uninterruptible Operation Power System Product Series

For (IR) Speed Dome 24VAC Power Supply Solutions

Applicable Products:

IO-Power USSP-12V0712-II Series Indoor/ Outdoor Large Consumption Model *Online Type Uninterruptible Operation Power System*	IO-Power USSP-12V0712-OA Series Outdoor Street Lamps Model Online Type Uninterruptible Operation Power System	IO-Power USSP-12V1224-OA Series Outdoor Street Lamps Heavy Current Model Online Type Uninterruptible Operation Power System	IO-Power USSS-12V1224-OA Series Solar Collection Cloudy model Next Generation Solar Collection Energy Online Type Power Generation System

Solution Architecture:

Input AC 90V~240V
Output 12VDC 3A
Output 12VDC 3A
Output 12VDC 6A
Output 12VDC 6A
Input 12VDC 3A~6A
12VDC to 110VAC 100W ~ 300W Power Inverter
Output 110VDC 0.25A~0.5A
110VAC to 24VAC 0.8 ~ 1.5A Power Adapter (Speed Dome Accessories)
Output 24VAC 0.8A~1.5A
Battery Capacity 11.6Ah=148WH Can Support Working 16Hrs
24VAC 0.8 ~ 1.5A (IR) Speed Dome

Form No. : IOP-OANC-001-001 Rev. : A.1 Retention date : 6Years

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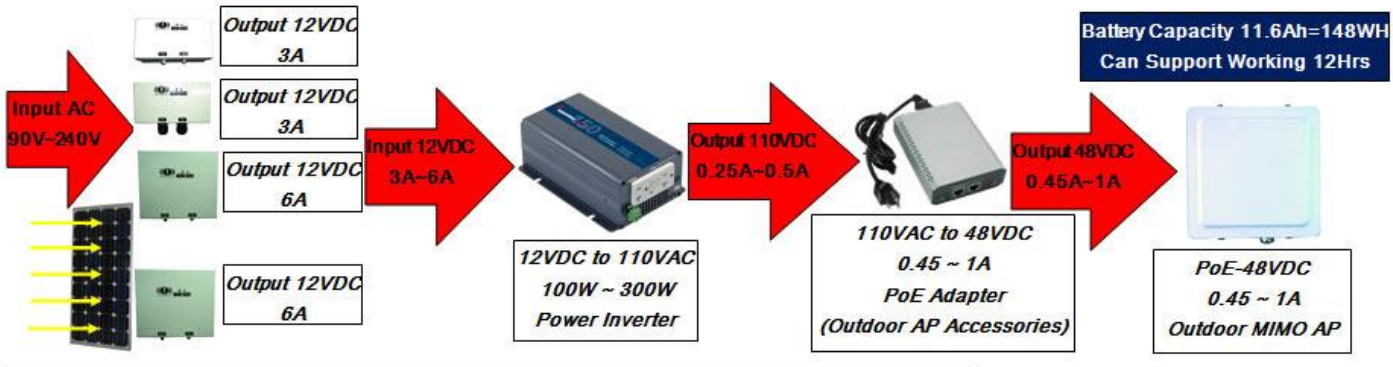
IO-Power Indoor/Outdoor 12VDC Online Type Uninterruptible Operation Power System Product Series

For Outdoor Wireless MIMO AP PoE-48VDC Power Supply Solutions

Applicable Products:

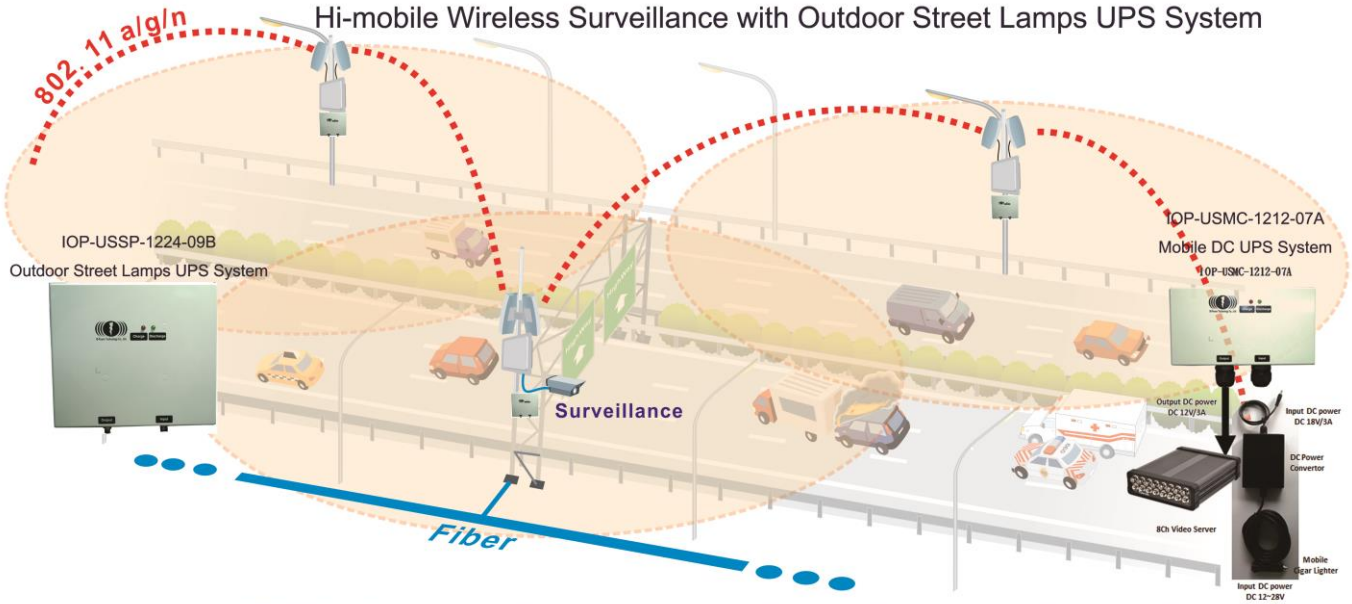
IO-Power USSP-12V0712-II Series Indoor/ Outdoor Large Consumption Model *Online Type Uninterruptible Operation Power System*	IO-Power USSP-12V0712-OA Series Outdoor Street Lamps Model Online Type Uninterruptible Operation Power System	IO-Power USSP-12V1224-OA Series Outdoor Street Lamps Heavy Current Model Online Type Uninterruptible Operation Power System	IO-Power USSS-12V1224-OA Series Solar Collection Cloudy model Next Generation Solar Collection Energy Online Type Power Generation System

Solution Architecture:

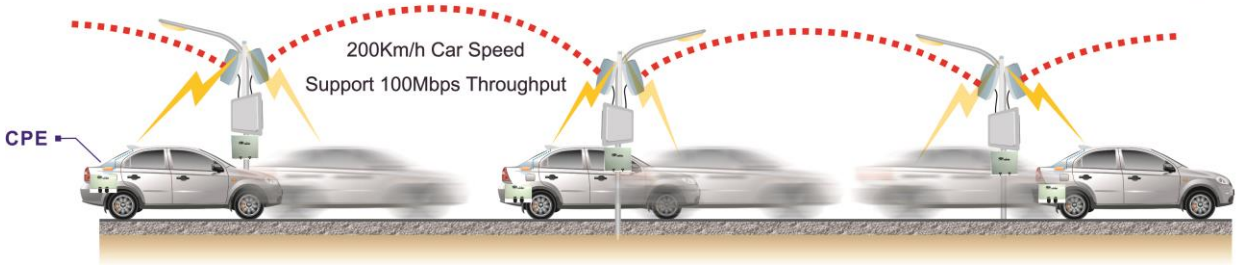

Input AC 90V~240V
Output 12VDC 3A
Output 12VDC 3A
Output 12VDC 6A
Output 12VDC 6A
Input 12VDC 3A~6A
12VDC to 110VAC 100W ~ 300W Power Inverter
Output 110VDC 0.25A~0.5A
110VAC to 48VDC 0.45 ~ 1A PoE Adapter (Outdoor AP Accessories)
Output 48VDC 0.45A~1A
Battery Capacity 11.6Ah=148WH Can Support Working 12Hrs
PoE-48VDC 0.45 ~ 1A Outdoor MIMO AP

Form No. : IOP-OANC-001-001 Rev. : A.1 Retention date : 6Years

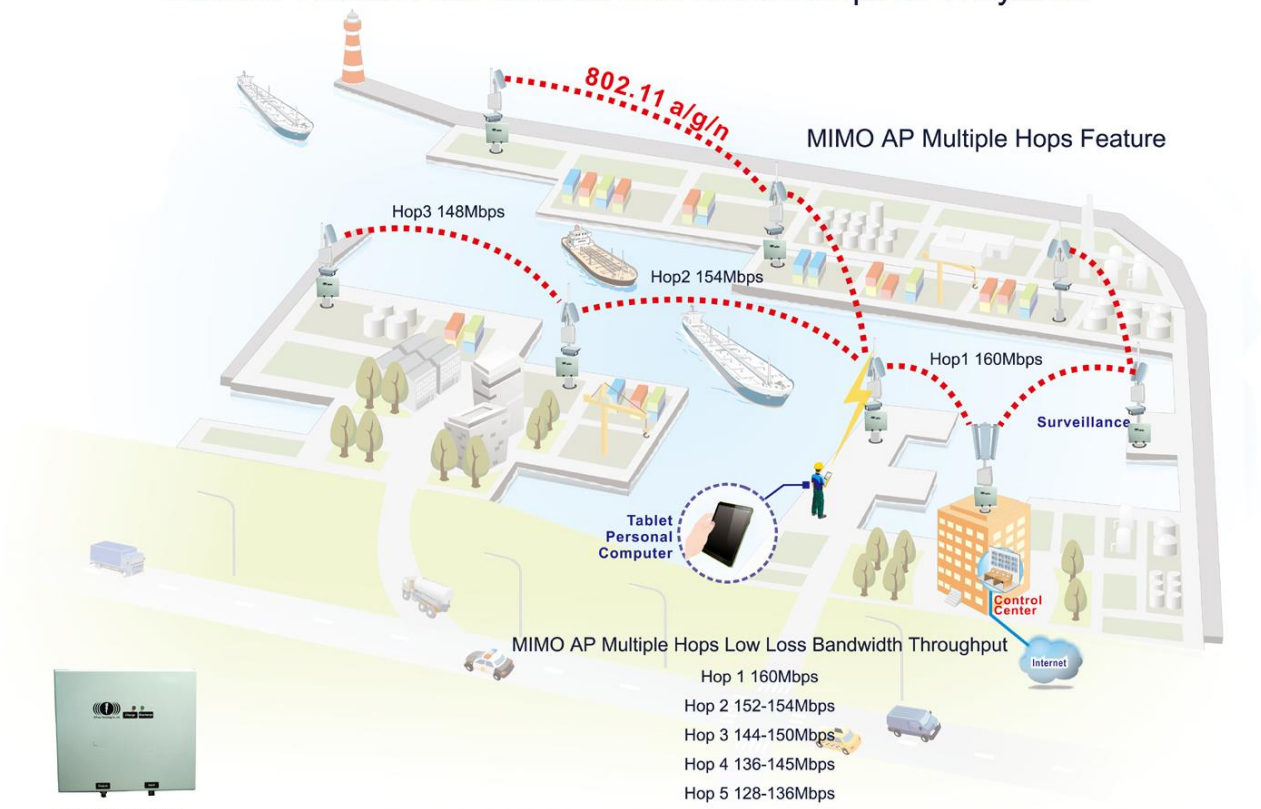
Hi-mobile Wireless Surveillance with Outdoor Street Lamps UPS System



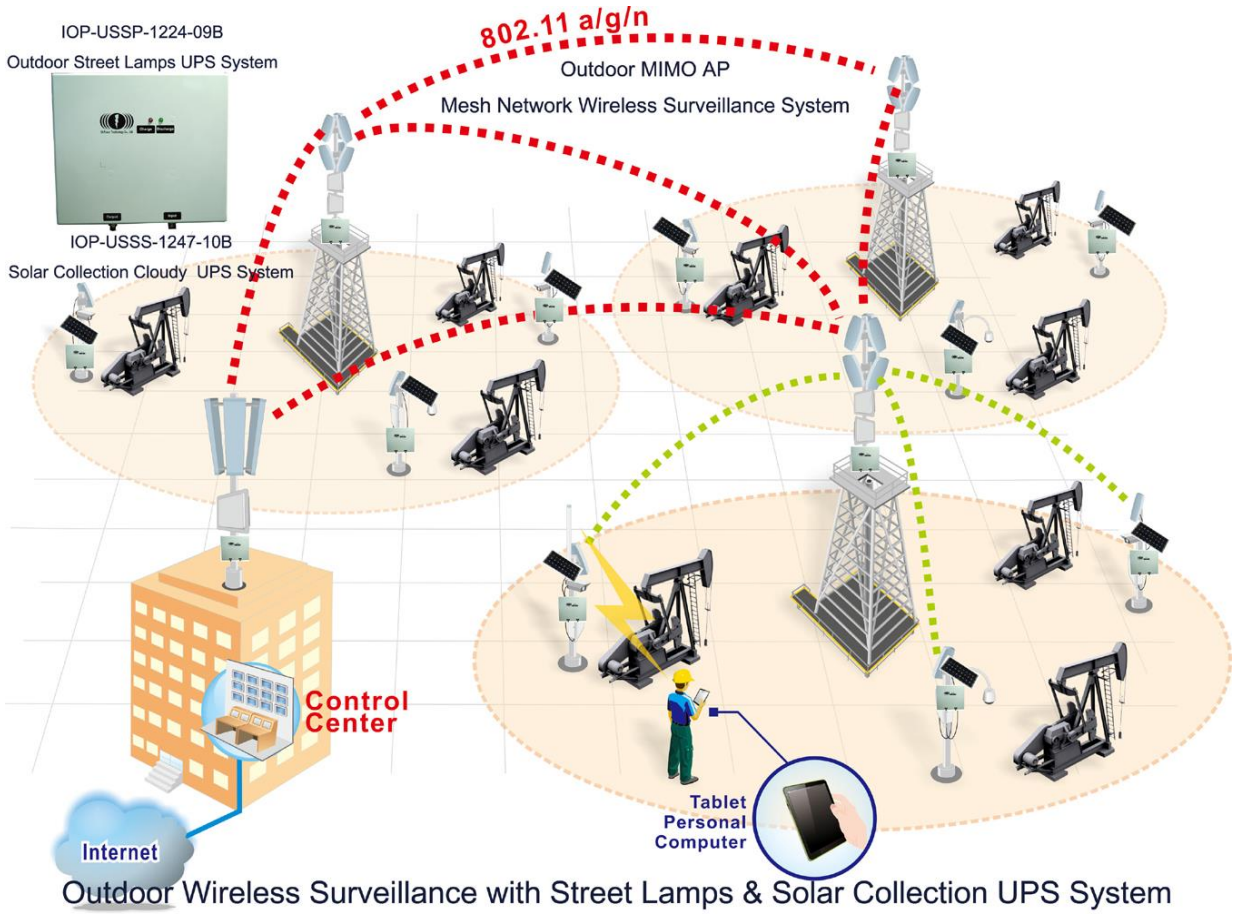
MIMO Multiple Hops Support Hi-mobile Wireless Surveillance Transmit System



Outdoor Wireless Surveillance with Street Lamps UPS System



IOP-USSP-1224-09B
Outdoor Street Lamps UPS System



Outdoor Wireless Surveillance with Street Lamps & Solar Collection UPS System